

AMENDMENTS TO THE CLAIMS

1. **(Previously Presented)** A method for immobilizing a protein on a microporous material, said microporous material is selected from the group consisting of zeolite or a similar solid surface whereby loss of activity of said protein is less than 10% of the initial activity prior to immobilizing, comprising the steps of:

- (i) selecting a polypeptide tag capable of binding to the surface,
- (ii) immobilizing said protein by the steps of:
 - (a) attaching said polypeptide tag to the protein, and
 - (b) binding said polypeptide tag to the solid surface

wherein step (a) and (b) are performed simultaneously or sequentially and when performed sequentially, the order of step (a) and (b) is random, further wherein the polypeptide tag does not consist only of histidine residues.

2. **(Previously Presented)** The method according to claim 1 wherein the binding in step (i) is a specifically binding of the polypeptide tag to the surface.

3. **(Previously Presented)** The method according to claim 1 wherein the polypeptide tag comprises at least two lysine residues.

4. **(Previously Presented)** The method according to claim 1 wherein the polypeptide tag comprises at the most 21-500 of amino acid residues.

5. **(Previously Presented)** The method according to claim 1 wherein said polypeptide tag has at least 30-100% amino acid sequence identity to SEQ ID NO 1.

6. **(Previously Presented)** The method according to claim 1 wherein said polypeptide tag has at least 30-100% amino acid sequence identity to SEQ ID NO 2.

7. **(Previously Presented)** The method according to claim 1 wherein the binding in step (i) is enhanced by repeating said polypeptide tag at least 2, 3, 4, 7, 10, 50, or 100 times.

8. **(Currently Amended)** The method according to claim 1 wherein the avidity of the polypeptide tag for the surface is enhanced by repeating said polypeptide tag at least 2, 3, 4, 7, 10, 50, or 100 times.

9. **(Previously Presented)** The method according to claim 7 wherein the amino acid sequence identity between the repeating polypeptide sequences is at least 30-100%.

10. **(Previously Presented)** The method according to claim 1 wherein the protein is expressed on the surface of a cell.

11. **(Previously Presented)** The method according to claim 1 wherein said attachment of the polypeptide tag to the protein provides a fusion protein.

12. **(Previously Presented)** The method according to claim 11 wherein said fusion protein is recombinantly provided.

13. **(Previously Presented)** The method according to claim 1 wherein the polypeptide tag is attached to the protein by chemical treatment.

14. **(Previously Presented)** The method according to claim 1 wherein the surface comprises at least one aluminum moiety, at least one silicate moiety and/or at least one phosphate moiety.

15. **(Previously Presented)** The method according to claim 1 wherein the similar solid surface is selected from the group consisting of meso- and microporous materials including hydrotalcite, clay, aluminosilicate, oxide powders, activated carbon, mica, glass, clinoptilite, gismondine zeolite, alluminate and quartz.

16. **(Previously Presented)** The method according to claim 15 wherein the zeolite is either naturally occurring or synthetically produced.

17. **(Previously Presented)** The method according to claim 15 wherein the meso- and microporous material is selected from the group of zeolites consisting of AFI, EMT, FAU and MFI.

18. **(Previously Presented)** The method according to claim 15 wherein the zeolite has a pore size in the range selected from the group consisting of 1-50 Å, 1-40 Å, 1-30 Å, 1-20 Å, 1-15 Å, 2-10 Å, e.g. 3-8 Å, 5-8 Å, and 6-8 Å.

19. **(Previously Presented)** The method according to claim 1 wherein the protein is selected from the group consisting of an antibody, an antigen, a receptor, a biotin, an avidin, a hormone, a lectin, a sugar, an enzyme and a protease.

20. **(Previously Presented)** The method according to claim 1 wherein the polypeptide tag is bound directly to the solid surface.

21. **(Previously Presented)** A polypeptide tag that is capable of controlling the orientation of proteins immobilized on a microporous material, wherein said microporous material is selected from the group consisting of zeolite and similar solid surfaces.

22. **(Previously Presented)** The polypeptide tag according to claim 21 wherein the polypeptide tag comprises at least two lysine residues.

23. **(Previously Presented)** The polypeptide tag according to claim 21 wherein the polypeptide tag comprises at the most 21-500 amino acid residues.

24. **(Previously Presented)** The polypeptide tag according to claim 21 wherein the polypeptide tag is provided on at least one subunit of a protein.

25. **(Previously Presented)** The polypeptide tag according to claim 21 wherein said polypeptide tag has at least 30-100% amino acid sequence identity to SEQ ID NO 1.

26. **(Previously Presented)** The polypeptide tag according to claim 21 wherein said polypeptide tag has at least 30-100% amino acid sequence identity to SEQ ID NO 2.

27. **(Previously Presented)** A method for isolating an analyte from a liquid sample, said method comprising:

- (i) selecting a protein immobilized according to the method of claim 1, wherein said protein is capable of specifically binding to the analyte,
- (ii) contacting said immobilized protein with the liquid sample,
- (iii) permitting said immobilized protein to react with the analyte to obtain a complex of the immobilized protein and the analyte,
- (iv) optionally washing said complex, and
- (v) eluting the analyte from said complex.

28. **(Previously Presented)** The method according to claim 27 wherein the liquid sample is selected from the group consisting of fermentation medium, wastewater, blood, milk, urine, dairy products and a chemical reaction.

29. **(Previously Presented)** The method according to claim 27 wherein the immobilized protein is reused.

30. **(Previously Presented)** A method of purifying analyte comprising contacting said analyte with a column chromatography material comprising a protein immobilized using the method of claim 1.

Appl. No. : 10/534,162
Filed : May 19, 2006

31. **(Previously Presented)** A method of hydrolyzing a molecule comprising contacting said molecule with a protein immobilized using the method of claim 1.

32. **(Previously Presented)** The cell comprising a surface molecule comprising the polypeptide tag according to claim 21.

33. **(Previously Presented)** A material having at least one surface onto which a polypeptide tag has been bound, wherein said polypeptide tag has at least 30-100% identity to SEQ ID NO. 1 or SEQ ID NO. 2.

34. **(Previously Presented)** The material according to claim 33 wherein the surface is selected from the group consisting of meso- and microporous materials including zeolite, hydrotalcite, clay, aluminosilicate, oxide powders, activated carbon, mica, glass, clinoptolite, gismondine zeolite, alluminate and quartz.

35. **(Previously Presented)** A fusion protein bound to a polypeptide tag, wherein said polypeptide tag has at least 30-100% identity to SEQ ID NO. 1 or SEQ ID NO. 2.